

### REMARKS

Claims 1-18 are pending.

The applicant thanks the Examiner for indicating that claims 9-11 and 13 include allowable subject matter. Claim 9 has been rewritten in independent form to include the limitations of the claim from which it depended. Therefore that claim should now be in condition for allowance.

Claims 10-11 and 13 depend, directly or indirectly, from claim 9 and, therefore, should be in condition for allowance as well.

The remaining claims were rejected as follows:

- Claims 1-8 and 12 were rejected as unpatentable over U.S. Patent No. 5,949,483 (Fossum et al.).
- Claims 1-8, 12 and 14-18 were rejected as unpatentable over the combination of U.S. Patent Nos. 5,196,939 (Elabd et al.) and 6,166,367 (Cho).

Claim 1 has been amended to recite that the location and spatial resolution of each multi-resolution window are programmable independently of other multi-resolution windows. Similarly, claim 14 has been amended to recite that the location and spatial resolution of each region of interest are programmable independently of the other regions of interest. (*See, e.g.*, FIG. 1B)

The subject matter of the pending application includes a visual system that can provide multiple multi-resolution windows for a particular image frame such that each region of interest (*i.e.*, superpixel) may have a different, user-programmable resolution within the frame. Thus, multiple multi-resolution windows—each of which may have a different resolution—may be provided for any given image frame (*see, e.g.*, FIG. 1A).

The pending application discloses a system that allows the multi-resolution windows (superpixels) to be arbitrarily placed (*i.e.*, the starting address is independent of the resolution of

the superpixel). Thus, a programmable high-resolution superpixel may be placed anywhere in the field-of-view, for example, alongside other low-resolution (programmable) superpixels.

In contrast, the Fossum et al. patent can provide only a single resolution for a given frame. In particular, the Fossum et al. patent discloses an active pixel sensor array with multi-resolution readout. As explained, for example, in connection with the discussion of FIGS. 6A through 6C (starting at col. 10, line 11), different areas of interest of an image may be identified, and the resolution of a particular area of interest may be enhanced. However, such a multi-resolution technique is performed in a sequential manner, such that any given frame has only a single resolution. Thus, the Fossum et al. patent does not suggest providing spatially variable super-pixel resolution; nor does that patent suggest a system that can place superpixels at arbitrary locations.

At least for the foregoing reasons, the Fossum et al. patent does not suggest the subject matter of the pending claims.

The Elabd et al. patent addresses problems relating to windowing in charge-coupled-devices (CCDs) that arises because CCDs operate by transferring charges from one pixel to another and the readout, therefore, is serial in nature, precluding random access. That patent describes a method for reading out one portion of the image (instead of the full-frame) at the native resolution.

Windowing is very different from the multi-resolution approach of the pending claims, which allows readout of the entire image (or part of it) with spatially variable resolution, which may be programmed by the user.

The Cho patent's discussion of reconfiguration is in the context of reconfiguring functionality (e.g., addition, subtraction). That patent also does not describe or suggest a technique for providing spatially variable super-pixel resolution.

Applicant : Yang, et al.  
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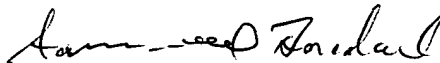
Attorney's Docket No.: 06618-560001 / CIT-3124

In view of the foregoing remarks, applicant respectfully requests reconsideration and withdrawal of the rejections of claims 1-8, 12 and 14-18.

Enclosed is a check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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